A.D. 1858, 20th *August.* N° 1897.

SPECIFICATION

OF

JAMES LEWIS FIGGETT.

SYRINGE.

LONDON:
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A.D. 1858, *20th August.* N° 1897.

Syringe.

LETTERS PATENT to James Lewis Figgett, of Missionary Place, Walworth, in the County of Surrey, Surgical Turner, for the Invention of "An Improved Construction of Syringe or Hand Pump."

Sealed the 18th February 1859, and dated the 20th August 1858.

PROVISIONAL SPECIFICATION left by the said James Lewis Figgett at the Office of the Commissioners of Patents, with his Petition, on the 20th August 1858.

I, James Lewis Figgett, of Missionary Place, Walworth, in the County of Surrey, Surgical Turner, do hereby declare the nature of the said Invention for "An Improved Construction of Syringe or Hand Pump," to be as follows:—

The chief object of this Invention is to throw a small continuous stream for medical purposes by the use of one hand only, instead of two hands, as is at present required to work injecting syringes. For this purpose I construct an air-tight barrel, to the lower end of which I fit a hollow piston, the hollow rod of which forms the supply pipe. In this piston I mount a ball or other valve, and at about the middle of the barrel I provide a second and similar valve, above which branches off the discharge pipe. The piston I connect with the lower end of the barrel by means of a coiled spring, the action of which is to draw down the piston to the bottom of the barrel. Air-holes are made in the barrel to admit air to the under side of the piston.

When the instrument is required to be used, say, for medical purposes, the discharge pipe is connected by means of a flexible tube with a pierced discharge tube suited for the special object for which the syringe is for the time to be applied, and the foot of the hollow piston rod is inserted in the vessel containing the injecting fluid. The operator then grasping the barrel in one hand presses it down, and thereby compresses the spring; then, by removing the pressure, he allows the spring to expand and draw back the piston, and so a rapid pumping action is produced, both the descent and advance of the piston causing a discharge of the fluid.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said James Lewis Figgett in the Great Seal Patent Office on the 19th February 1859.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, James Lewis Figgett, of Missionary Place, Walworth, in the County of Surrey, Surgical Turner, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twentieth day of August, in the year of our Lord One thousand eight hundred and fifty-eight, in the twenty-second year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said James Lewis Figgett, Her special license that I, the said James Lewis Figgett, my executors, administrators, and assigns, or such others as I, the said James Lewis Figgett, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "An Improved Construction of Syringe or Hand Pump," upon the condition (amongst others) that I, the said James Lewis Figgett, by an instrument in writing under my hand and seal, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said James Lewis Figgett, do hereby declare the nature of my said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement, reference being had to the Drawings hereunto annexed, and to the letters and figures marked thereon (that is to say):—

The chief object of this Invention is to throw a small continuous stream for medical purposes by the aid of one hand only (instead of two hands, which are at present required to work this class of injecting syringes) thus leaving the other hand of the operator free for directing the stream or for other employment.

In the accompanying Drawing, Fig. 1 shews, in sectional elevation, the improved syringe in action; and Fig. 2 is a similar sectional elevation, but shewing the parts in different relative positions to those of Fig. 1. *a*, *a**, is a cylindrical barrel composed of two parts, and connected together by screwing on to a valve box *b*, at opposite sides thereof. In the seat of this valve box fits a spherical valve *c*, or it may be a clack or conical valve, and from the box, just above the valve seat, projects laterally a discharge pipe *b**. The upper end of the barrel is closed air-tight, but the lower end is closed with a pierced cap, which is screwed in its place and forms a guide for the hollow rod *d* of the piston of the syringe. This rod *d*, which forms the supply pipe to the syringe, is made with a splayed foot *e*, or cup with an indented edge at its lower end, and to its upper end is fitted a hollow piston *f*, provided with a spherical, or it may be any other suitable valve *g*, and a grating for confining the valve in place. Coiled round the piston rod and inserted between the piston and the cap on the lower part of the barrel, is a spring *h*, which has a tendency to draw down the piston into the position of Fig. 1, and create a vacuum in the barrel below the valve box, which vacuum when the open piston rod is immersed in a basin of water will be quickly filled by the rise of water up the piston rod, through the piston, and into the lower part of the barrel. By pressing with the hand upon the upper end of the barrel, the barrel will be forced down and the spring expanded. This movement of the barrel (equivalent to the thrusting inwards of the piston) will force upwards the water contained in the space between the two valves *c* and *g* into the barrel, cause it to lift the valve *c* off its seat (as shewn at Fig. 2) and pass out at the discharge pipe *b**. The pressure of the hand being then removed from the top of the barrel the spring *h* will be free to contract and draw down the piston. During this movement the valve *g* will rise from its seat and admit a further supply of water above the piston. On to the end of the discharge pipe *e* a flexible pipe *i* of any required length is screwed, and to this pipe *i* is fitted at its opposite end a nozzle *k*, which is intended to receive a jet or rose-head of any suitable construction for directing or diffusing the stream. Air-holes are made in the cap at the lower end of the barrel to admit air to the under side of the piston, but the upper end is closed air-tight, in order to enclose a column of air which shall act upon the column of water forced into the barrel above the valve box, and by its expansion, when the pressure of the hand is removed from the top of the barrel, discharge the water through the pipe *b**.

When the instrument is required to be used, say, for medical purposes, the flexible tube is fitted with a pierced ivory or other discharge pipe suited for the special object to which the syringe is for the time to be applied, and the foot of the hollow piston rod is inserted in the vessel containing warm water or other injecting fluid. The operator then grasping the barrel in one hand presses it down, and thereby compresses the spring *h*; then, by removing the pressure, he allows the spring to expand and draw back the piston, and so a rapid pumping action is produced, both the descent and advance of the piston causing a discharge of the fluid. The piston rod may either be permanently attached to the piston or made removeable therefrom, as indicated by the Drawing, to facilitate the packing of the portable instrument. The same principle of construction, it will be understood, may be readily applied to a garden engine, or where a more copious stream is required to be projected than for medical purposes.

Having now set forth the nature of my Invention of "An Improved Construction of Syringe or Hand Pump," and explained the manner of carrying the same into effect, I wish it to be understood that under the above in part recited Letters Patent I claim, constructing syringes or hand pumps, as herein described, whereby with the exercise of one hand alternately pressing upon and releasing the pressure from the barrel, the operator is enabled to throw a continuous stream, thus leaving the other hand free for directing the stream or for other use.

In witness whereof, I, the said James Lewis Figgett, have hereunto set my hand and seal, this Nineteenth day of February, in the year of our Lord One thousand eight hundred and fifty-nine.

JA^S FIGGETT. (L.S.)

Witness,
J. W. MOFFATT,
66, Chancery Lane.

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Printers to the Queen's most Excellent Majesty. 1859.

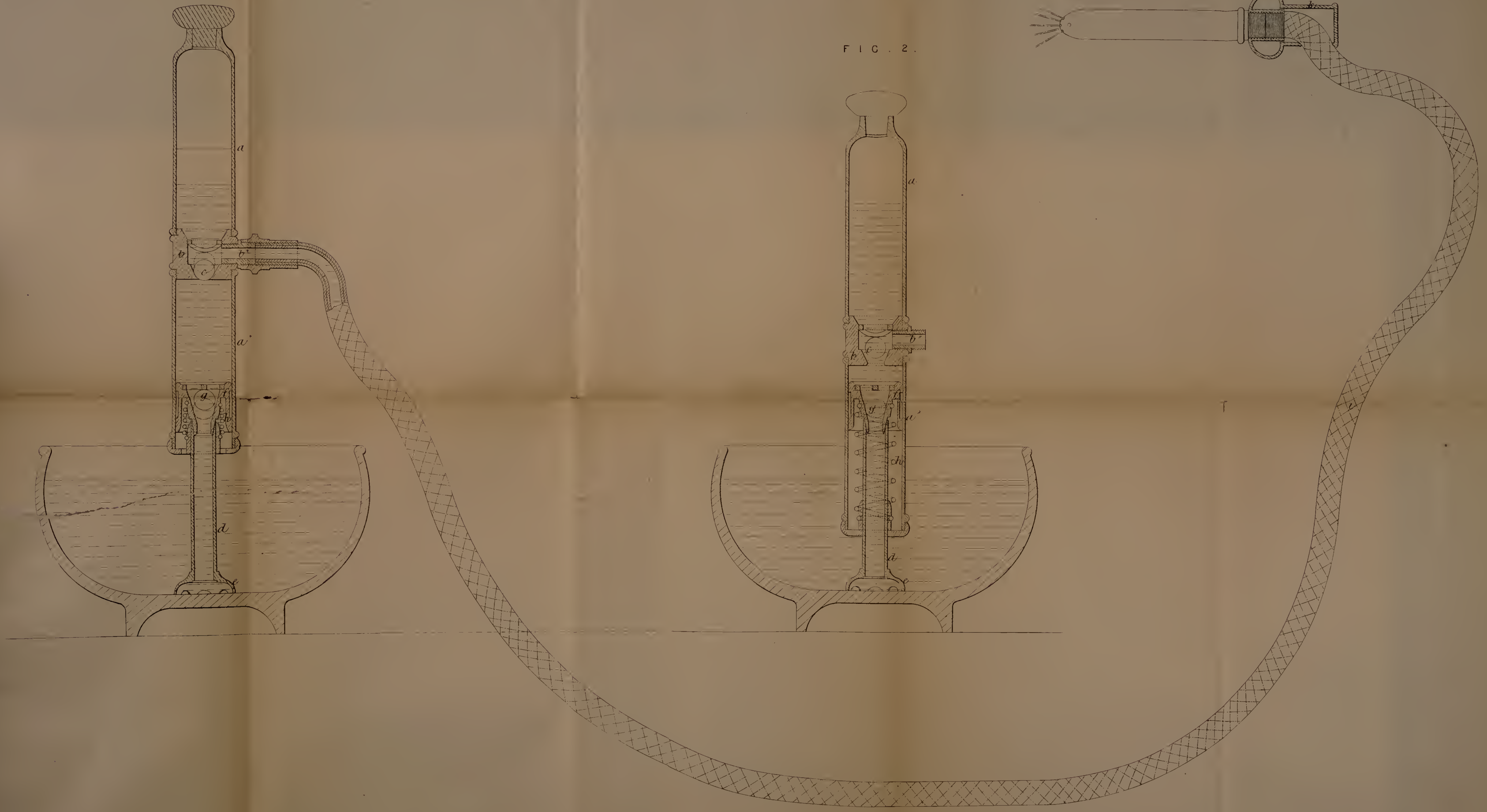
A. D. 1858. Aug. 20. No. 1897.
FIGGETT'S SPECIFICATION.

(1 SHEET)

Hl

FIG. 1.

FIG. 2.



The filed drawing is colored

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